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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,844	01/16/2004	Meng-Chai Wu	87159200.242005	6937
23562	7590	06/09/2005	EXAMINER	
BAKER & MCKENZIE PATENT DEPARTMENT 2001 ROSS AVENUE SUITE 2300 DALLAS, TX 75201			VU, PHU	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/758,844	Applicant(s) WU ET AL.	
	Examiner Phu Vu	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-8, 12-16 and 19-20 rejected under 35 U.S.C. 102(b) as being anticipated by Hiyama US Patent No. 6104454.

Regarding claim 1, Hiyama teaches a display system comprising: a light modulator (fig. 12 element 250), an optical module coupled to the light modulator, wherein the optical converter module comprises: a plurality of converter units wherein one or more of the plurality of converter units comprises: one or more polarizing beam splitters (fig. 14 element 230) configured to transmit a first polarized component (fig. 14 310) of the light input light and reflect a second polarized component (fig. 14 element 311) of the input light; at least one reflector (fig. 14 element that splits 310 and 311) coupled to one or more polarizing beam splitters and configured to direct the second polarized components towards the light modulator; and at least one retardation element (fig. 14 element 234) coupled to one or more of the plurality of polarizing beam splitters and configured to rotate polarization of at least one of the first and second polarized components.

Note Figs. 12 & 14 are both used because fig. 14 does not show the liquid crystal element however each backlight is meant to be used in a display.

Regarding claim 2, the retardation film is a quarter wave retardation film (column 13 line 55).

Regarding claim 3, there is a plurality of converter units (see fig. 14).

Regarding claim 4, the light modulator is a liquid crystal panel (see fig. 14 element 250).

Regarding claim 5, the reflectors are polarization beam splitters as the reflector reflects one polarization component up (see fig. 14 element 310) and directs the other component (element 311) toward a retarder to change the polarization state.

Regarding claim 6, the retarders (fig. 14 element 234) are placed between a reflector and polarization beam splitter.

Regarding claim 7, the reference teaches an illumination source coupled to the optical converter and configured to generate the input light (see fig. 14 element 210).

Regarding claim 8, the illumination source is a backlight (see fig. 14 element 210).

Regarding claim 12, claim 1 discloses all the limitations of claim 12.

Regarding claim 13, claim 2 discloses all the limitations of claim 13.

Regarding claim 14, claim 3 discloses all the limitations of claim 14.

Regarding claim 15, claim 5 discloses all the limitations of claim 15.

Regarding claim 16, claim 6 discloses all the limitations of claim 16.

Regarding claim 19, the reference teaches a method of modulating light in a display system comprising: receiving randomly polarized input light (fig. 14 element 232); transmitting a first portion of the randomly polarized light (fig. 14 element 310) ,

rotating polarization of a second portion (fig. 14 element 311) of the randomly polarized input light to a display panel; and directing the first and second portions of randomly polarized input light to a display panel.

Regarding claim 20, the reference teaches the polarization of the second portion of the randomly polarized input light is rotated to be substantially similar to the polarization of the first portion of the randomly polarized input light (see column 13 lines 47-50).

Claims 1, 9-10, 12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Okuyama US Patent No. 6257726.

Regarding claim 1, Okuyama teaches a display system comprising: a light modulator (fig. 4 element 10), an optical module coupled to the light modulator (elements 5-8), wherein the optical converter module comprises: a plurality of converter units wherein one or more of the plurality of converter units comprises: one or more polarizing beam splitters (fig. 4 element 7) configured to transmit a first polarized component (fig. 3 rays that do not pass through 7c) of the light input light and reflect a second polarized component (fig. 3 rays that do pass through element 7c) of the input light; at least one reflector (fig. 3 element 7b) coupled to one or more polarizing beam splitters and configured to direct the second polarized components towards the light modulator; and at least one retardation element (fig. 3 element 7c) coupled to one or more of the plurality of polarizing beam splitters and configured to rotate polarization of at least one of the first and second polarized components.

Regarding claim 12, claim 1 discloses all the limitations of claim 12.

Regarding claims 9-10 and 17, the reference teaches a plurality of lenses coupled to the plurality of converter units and configured to focus the light towards one or more polarizing beam splitters that are linearly parallel to each other in an array arrangement (fig. 4 element 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiyama.

The embodiment denoted by fig. 14 of Hiyama teaches all the limitations of claim 11 except at least one light-diffusing layer coupled to the plurality of converter units configured to scatter light output from the plurality of converter units towards the light modulator. However, Hiyama teaches a light-diffusing layer coupled to the plurality of converter units configured to scatter light output from the plurality of converter units towards the light modulator in order to reduce reflection at the interface of the liquid crystal display thereby increasing brightness (column 8 lines 30-37). Therefore at the time of the invention, it would have been obvious to one of ordinary skill in the art to include a diffusing layer coupled to the converter unit to increase brightness.

Conclusion

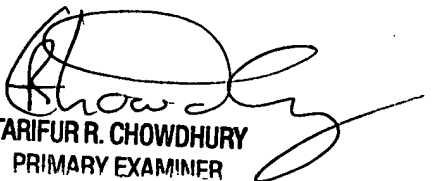
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562.

The examiner can normally be reached on 8AM-5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu Vu
Examiner
AU 2871


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER